

**TALLEY DEFENSE  
SYSTEMS** | **Talley**  
Industries

Refer To: SMW-4051

AZD 980 816 276  
AZD 980 885 362  
AZD 982 361 347  
AZD 982 471 096

July 11, 1994

Ms. Nicole Moutoux  
U.S. EPA  
75 Hawthorne Street, H-2-2  
San Francisco, CA 94105

Dear Ms. Moutoux:

Thank you for providing a copy of the RCRA Facility Assessment (RFA) report prepared for the Talley Defense Systems, Inc. (TDS) facility in Mesa, Arizona. TDS appreciates the opportunity to review the report and to provide technical corrections and/or comments where applicable.

Talley Defense Systems' review of the RFA revealed two types of amendments to the report. Amendments identified with an A prefix are those items which contain significant technical corrections and/or comments. These amendments are listed immediately following this introduction. Amendments identified with a B prefix are those items which contain technical corrections and/or comments which make the RFA a more accurate document. These amendments are listed immediately following the A amendments.

In order to establish a recurring format, TDS has identified each amended text item by location within the document, the specific text in question and either a technical correction and/or comment as it applies to the text. All text added, deleted or revised has been highlighted. TDS acknowledges that this format increases the length of the response but believes it assists the reader when reviewing the document. Please address any questions or requests for further information to Scott Harczyński at (602) 898-2433.

**A Amendments:****A-1. Location:** Page 2-2, paragraph 3.

**Text:** In addition, TDS has manufactured sodium azide ( $\text{NaN}_3$ ) propellants for automotive air bag inflators in Plant 6, and has manufactured gas generators at Plant 2. (d:1-2, X:5).

**Technical Correction:** In addition, TDS has manufactured sodium azide ( $\text{NaN}_3$ ) propellants at Plant 3 for automotive air bag inflators which were assembled at Plant 6, and has manufactured gas generators at Plants 2 and 3.

**Comment:** Sodium Azide propellants were never manufactured at Plant 6. Plant 6 assembled the various components into sub-assemblies or into a complete inflator and/or module.

- A-2. **Location:** Page 3-4, add a bullet to the end of Section 3.1

**Text:** None.

**Technical Correction:** On January 17, 1994, TDS submitted a revised Part B Permit Application in response to a first Notice of Deficiency (NOD) from ADEQ for the BQ, EPA I.D. No. AZD 020132502. A revised Part A application was included in the submittal. The total amount shown in Section XIV of the Part A was revised to 80,000 lbs/year. This amount represents only the treatment capacity of the BQ. The proposed storage facility is no longer required and therefore has been deleted from the 1994 Part B Permit application.

**Comment:** The addition of the above text brings the RFA up to date with respect to TDS Part A activity.

- A-3. **Location:** Page 3-4, add a bullet to the end of Section 3.2

**Text:** None.

**Technical Correction:** On January 17, 1994, TDS submitted a revised Part B Permit application in response to a first Notice of Deficiency (NOD) from ADEQ for the Burn Ground, EPA I.D. No. AZD 020132502.

**Comment:** The addition of the above text brings the RFA up to date with respect to TDS Part B activity.

- A-4. **Location:** Page 3-5, Section 3.3

**Text:** The entire Section 3.3.

**Technical Correction:** See Appendix 1.

**Comment:** Appendix 1 revises and updates the open burning permit status of the TDS Burn Ground.

- A-5. **Location:** Page 3-7, add a bullet to the end of Section 3.3

**Text:** None.

**Technical Correction:** On 5/4/94, TDS received air quality permits from the Maricopa County Environmental Services Department for Plants 2 and 4. On 5/5/93 TDS received an air quality permit from the Maricopa County Environmental Services Department for Plant 3.

**Comment:** The addition of the above text brings the RFA up to date with respect to TDS' other permitting information. Note that valid Maricopa County Air Quality permits existed between the September 4, 1985 expiration date listed in the first bullet under Section 3.3 and the dates of these permits.

- A-6. **Location:** Page 3-7, paragraph 4

**Text:** Extensive regulatory activity has occurred in connection with the TDS plants. TDS has repeatedly violated the Arizona Administrative Code, and corrective action has been required by both ADEQ and its predecessor, the Arizona Department of Health Services (ADHS). The majority of the corrective actions has related to inaccurate or inadequate "paperwork" requirements, such as closure plans, manifest requirements, inaccurate or nonexistent job descriptions, and inaccurate Part A and Part B Permit Applications. In addition, TDS has failed to provide adequate training for its employees who handled hazardous (reactive - D003) waste in the past. TDS generally demonstrated improper

handling of hazardous wastes in the majority of the inspections. Table 3-1 (following page) provides a summary of the inspections conducted to date, based on the file review.

**Technical Correction:** None.

**Comment:** TDS responded in detail to the allegations listed in Table 3-1 at the times the allegations were made by ADEQ. It would not be productive to repeat those responses here but please note that TDS does not believe it was in violation of local, state or federal rules or regulations.

**A-7. Location:** Page 4-2, paragraph 2

**Text:** In addition, this application indicates that RCRA-listed waste P105 ( $\text{NaN}_3$ ) was generated as commercial chemical product hazardous waste (j:4).

**Technical Correction:** None.

**Comment:** RCRA-listed waste P-105 ( $\text{NaN}_3$ ) was never generated as commercial chemical product hazardous waste at Plant 2.

**A-8. Location:** Page 6-2, paragraph 2

**Text:** Spent glass bead and teflon bead media are considered nonhazardous by TDS. Spent aluminum oxide blast medium is accumulated as hazardous waste (D006, ~~D007~~) in a drum located between bays 44 and 45 approximately 30-40 feet northeast of the wet booth SAA. This drum is on a concrete floor and against the wall (Photo No.4). (S:14, T:33,34: X:2)

**Technical Correction:** Spent glass bead ~~blast~~ medium is considered nonhazardous by TDS. Spent aluminum oxide ~~and teflon bead blast~~ media is accumulated as hazardous waste (D006) in drums located between bays 44 and 45 approximately 30-40 feet northeast of the wet booth SAA. The drums are located ~~on a skid~~ on a concrete floor and against the wall (Photo No.4).

**Comment:** None.

**A-9. Location:** Page 6-3, Section 6.1.1. SAA Table

**Text:**

| SAA Name<br>(SWMU No.)             | Date of Start-<br>Up          | Date of<br>Closure | Wastes<br>Managed     |
|------------------------------------|-------------------------------|--------------------|-----------------------|
| Paint Booth (1)                    | 1993 (formerly<br>at Plant 1) | active             | D007                  |
| Blast Residue<br>(2)               | late 1960s                    | active             | D006, <del>D007</del> |
| Area 29 (3)                        | late 1960s                    | active             | D003, F001            |
| Glue Table* (4)                    | late 1960s                    | 1990               | D003                  |
| * - historical SWMU no longer used |                               |                    |                       |

**Technical Correction:**

| SAA Name<br>(SWMU No.)             | Date of Start-<br>Up          | Date of<br>Closure | Wastes<br>Managed    |
|------------------------------------|-------------------------------|--------------------|----------------------|
| Paint Booth (1)                    | 1993 (formerly<br>at Plant 1) | active             | D001, D002 &<br>D007 |
| Blast Residue<br>(2)               | late 1960s                    | active             | D006                 |
| Area 29 (3)                        | late 1960s                    | active             | D003, F001<br>F003   |
| Glue Table* (4)                    | late 1960s                    | 1990               | D003                 |
| * - historical SWMU no longer used |                               |                    |                      |

**Comment:** The Section 6.1.1 Table of the satellite accumulation areas for Plant 2 is obsolete. The addition of the above text brings the RFA up to date with respect to SAAs for Plant 2.

**A-10. Location:** Page 6-6, paragraph 2

**Text:** On May 18, 1989, one 55-gallon drum was found turned upside down, resulting in a liquid discharge to the ground "behind" (no direction specified) Plant 2 (u:5). No other information was discovered during the file review or VSI.

**Technical Correction:** None.

**Comment:** TDS was never provided a copy of the May 18, 1989 ADEQ "Hazardous Waste Inspection, Comments, and Probable Violations for Talley Defense Systems" by Lee Snowwhite. This RCRA Facility Assessment Report is the first notice TDS has received of the allegation that "a TCA drum was turned upside down resulting in a liquid discharge to the ground behind Plant 2." TDS questions this allegation and suspects that Mr. Snowwhite saw an empty reconditioned drum placed upside down by TDS as a replacement for the partially filled Satellite Accumulation drum of TCA. On May 18, 1989 the "upside down empty drum" and the Satellite Accumulation drum of TCA was most probably located at SWMU No 6 as stated in History of Releases for SWMU No. 6.

**A-11. Location:** Page 6-7, paragraph 6

**Text:** On May 18, 1989, one 55-gallon drum was found turned upside down, resulting in a liquid discharge to the ground "behind" (no direction specified) Plant 2 (u:5). No other information was discovered during the file review. Release Potential.

**Technical Correction:** None.

**Comment:** This is a duplicate of the History of Releases for SWMU No. 5. The same comments apply to Item No. A-11 as are written for Item No. A-10. Also, there is a format error as Release Potential should be a header and not located at the end of the statement.

**A-12. Location:** Page 6-10, paragraph 4

**Text:** Historical release potential was high, due to a lack of a concrete pad and accumulation of liquid hazardous waste.

**Technical Correction:** None.

**Comment:** Prior to the placement of the concrete pad in 1988 there was no accumulation of liquid hazardous waste in this SWMU.

**A-13. Location:** Page 6-12, paragraph 3

**Text:** During the VSI, several stains were observed in the product storage area of the pad. Two poly-drums (containing Chevron hydraulic oil 68, ISO-VG-68 and Chevron universal clear lubricant SAE-80W-90 [vacuum oil]) were propped up on bricks to allow air underneath them (Photo No. 13). No visible evidence of a puncture in the drum was observed. Along the northern edge of the pad, evidence of oil was observed on the soil. This soil appeared to be darker in color than the water-dampened soil next to the stain. It could not be determined if this soil was associated with the apparently leaking poly-drums (Photo Nos. 14 through 16). It also could not be determined to what depth the stain may penetrate, or how long this condition has existed.

**Technical Correction:** During the VSI, several stains were observed in the product storage area of the pad. Two ~~metal drums~~ (containing Chevron hydraulic oil 68, ISO-VG-68 and Chevron universal clear lubricant SAE-80W-90 [vacuum oil]) were propped up on bricks to allow ~~complete material removal~~ (Photo No. 11). No visible evidence of a puncture in the drum was observed. Along the northern edge of the pad, evidence of oil was observed on the soil. This soil appeared to be darker in color than the water-dampened soil next to the stain. It could not be determined if this soil was associated with the apparently leaking ~~metal drums~~ (Photo Nos. 14 through 16). It also could not be determined to what depth the stain may penetrate, or how ~~long~~ this condition has existed.

**Comment:** All of the drums pictured in Photos 10 through 16 are metal drums. The two drums identified in Photo #11 were propped to allow for complete material removal. None of the drums in storage at the time of the VSI were leaking. The stains on the concrete floor and soil are believed to be nonhazardous maintenance oil and/or polymer stains from product drums.

**A-14. Location:** Page 6-16, paragraph 3

**Text:** The water in this system is continuously recycled; no effluent is generated by this operation. Water flows out of the casing and large chunks of AP propellant are separated out. Water is then directed into the floor sump and pumped into one of two holding tanks located to the west of the protective wall (Photo No. 20). The holding tanks gravity separate smaller-grained AP material out of the influent from the floor sump. The AP collects at the bottom of the tank and is recovered for reclamation (TDS has not yet collected AP material from the bottom of the active tank and is unaware of the amount of AP anticipated for recovery). TDS stated that approximately 1½ to 2 five-gallon buckets of propellant is collected (as large chunks) for each motor bored. Collected propellant is accumulated on the southeastern edge of the concrete at a HWAA after accumulating on the eastern edge of the pad (Photo No. 21).

**Technical Correction:** The water in this system is continuously reused. The occasional effluent generated by this operation is ~~sewered under a City of Mesa Industrial Wastewater Discharge Permit~~. Water flows out of the casing and large chunks of AP propellant are separated out. Water is then directed into the floor sump, ~~screened and then~~ pumped into holding ~~Tank #1~~ located to the west of the protective wall (Photo No. 20). The holding tanks gravity separate smaller-grained ~~polymer~~ material ~~via a triple weir~~.

cascade system. The polymer collects at the bottom of the tank and is recovered for disposal as nonhazardous waste (TDS has not yet collected the polymer material from the bottom of the active tank and is unaware of the amount of polymer anticipated for disposal). The concentration of AP dissolved in the water is monitored and when saturated will be transferred to Tank #2, Cell C for processing in the AP recovery system and ultimately reused off site in the manufacture of perchloric acid. TDS stated that approximately 1½ to 2 five-gallon buckets of propellant is collected (as large chunks) for each large motor bored. Collected propellant is accumulated on the southeastern edge of the concrete at a HWAA after accumulating on the eastern edge of the pad (Photo No. 21).

**Comment:** The solid material collected in the process tanks is polymer. All AP is maintained in solution until the time for reclamation.

A-15. **Location:** Page 6-19, Section 6.2.1 SAA Table

**Text:**

| SWMU No. | Bay No.                    | Name/Department | Wastes Managed (EPA ID No.)  | Indoor/Outdoor |
|----------|----------------------------|-----------------|--|----------------|
| 11       | M                          | Maintenance     | Solvent contaminated trash (F001); 1,1,1-TCA and TCE (F001)                        | Indoor         |
| 12       | 2                          |                 | Solvent Contaminated Trash (F001)  | Outdoor        |
| 13       | 5* (hallway CE)            | X-ray           | X-ray Systems Cleaner (D007)   | Indoor         |
| 14       | 8 (hallway between 8 & 9)  |                 |  | Indoor         |
| 15       | 13                         | Research        | nonhalogenated solvent (flammable - mixed research waste; empty drum during VSI)   | Outdoor        |
| 16       | Hallway EE (northeast end) |                 | Solvent Contaminated Trash (F001)  | Indoor         |
| 17       | 16                         | Research        | 2 wastestreams - nonhalogenated solvents (F003, D001); halogenated solvents (F002) | Outdoor        |
| 18       | North end of Line 1        | Test Dept.      | Sand Blast Residue (D006)  | Outdoor        |

**Technical Correction:**

| SWMU No. | Bay No. (Figure 6-3)       | Name/Department | Wastes Managed (EPA ID No.)  | Indoor/Outdoor |
|----------|----------------------------|-----------------|--|----------------|
| -        | AA                         | Maintenance     | Solvent contaminated trash (F001, F003)  | Outdoor        |
| 11       | M                          | Maintenance     | Solvent Contaminated trash (F001, F003);<br>1,1,1-TCA (F001);<br>Refrigerant Oil (F001);<br>Paint (D001, D007, D008) | Indoor         |
| 12       | A                          | ERM             | 1,1,1-TCA (F001)   | Indoor         |
| 13       | 5*<br>(hallway CE)         | X-ray           | X-ray systems cleaner (D007)   | Indoor         |
| 14       | 4 (hallway between 4 & 5)  | ERM             | Solvent contaminated trash (F001, F003)  | Outdoor        |
| 15       | -                          | -               | -  | -              |
| 16       | Hallway EE (northeast end) | Research        | Solvent contaminated trash (F001, F003);<br>halogenated solvents (F002)  | Indoor         |
| 17       | 16                         | Research        | Nonhalogenated solvents (D001, F003); Mixed Research waste   | Outdoor        |
| 18       | East end of Line 1         | Test Dept.      | Sand Blast Residue (D006)  | Outdoor        |

**Comment:** The Section 6.2.1 Table of the satellite accumulation areas for Line 1 is obsolete. The addition of the above text brings the RFA up to date with respect to SAAs for Plant 3, Line 1.

A-16. **Location:** Page 6-24, Section 6.2.3 SAA Table  
**Text:**

| SWMU No. | Bay No. (Figure 6-3) | Name/Department                                      | Wastes Managed (EPA ID No.)                           | Indoor/Outdoor |
|----------|----------------------|--|---|----------------|
| 21       | N of Bay 47          | Line 2 Hold Area (currently SAA, formerly HWAA also) | waste propellant (D003);<br>waste solvent M17M (D001) | Indoor         |
| 22       | 45                   | Bay 45   | Solvent Contaminated Trash (F001)                     | Indoor         |
| 23       | VE                   | Paint Booth  | Paint Contaminated trash (D006)                       | Indoor         |

|    |                              |                             |   |         |
|----|------------------------------|-----------------------------|---|---------|
| 24 | NW of 36                     | Bay 36, Line 2<br>(cleanup) | Solvent contaminated<br>trash (F001)  | Indoor  |
| 25 | NW of 36                     | Line 2, Bay 36              | Waste Solvent (F001)  | Indoor  |
| 26 | 25                           | Bay 25 (outside patio)      | Solvent contaminated trash<br>(F001)  | Outdoor |
| 27 | 16                           | Research                    | 2 waste streams -<br>nonhalogenated solvents<br>(F003, D001);<br>halogenated solvents<br>(F002) | Outdoor |
| 28 | 22                           |                             | waste propellant (D003)   | Outdoor |
| 29 | South end<br>Line 2          | Model T Press               | waste $\text{NaN}_3$ propellant<br>(D003) and liners (P105)                                     | Indoor  |
| 30 | South of<br>Model T<br>Press | None                        | chromium contaminated<br>wastewater (D007)  | Outdoor |

**Technical Correction:**

| SWMU<br>No. | Bay No.<br>(Figure 6-3) | Name/Department | Wastes Managed<br>(EPA ID No.)                                  | Indoor/<br>Outdoor |
|-------------|-------------------------|-----------------|---|--------------------|
| 21          | East of<br>Bay 47       | Test Dept.      | Propellant (D003);<br>solvent M17M (F001)                       | Outdoor            |
| 22          | 46                      | Test Dept.      | Solvent contaminated trash<br>(F001, F003)                      | Indoor             |
| 23          | VE                      | Paint Booth     | Paint contaminated trash<br>(D007)                              | Indoor             |
| 24          | North of<br>Bay 36      | Line 2, Bay 36  | flammable liquid<br>(D001)                                      | Outdoor            |
| 25          | 36                      | Line 2, Bay 36  | solvent contaminated trash<br>(F001, F003);<br>1,1,1-TCA (F001) | Indoor             |
| 26          | 28                      | Bay 28          | Solvent M17M (F001)   | Outdoor            |
| 27          | -                       | -               | -   | -                  |
| 28          | 22                      | Bay 22          | propellant (D003)   | Outdoor            |
| 29          | West end of<br>Line 2   | Model T Press   | $\text{NaN}_3$ propellant (D003)                                | Indoor             |
| 30          | West end of<br>Line 2   | Model T Press   | chromium contaminated<br>wastewater (D007)                      | Outdoor            |

**Comment:** The Section 6.2.3 Table of the satellite accumulation areas for line 2 is obsolete. The addition of the above text brings the RFA up to date with respect to SAAs for Plant 3, Line 2.



**A-17. Location:** Page 6-29, paragraph 4

**Text:** Hazardous waste was accumulated here prior to the placement of the concrete in late 1990 (S:19).

**Technical Correction:** None.

**Comment:** Prior to the placement of the exterior concrete in late 1990 all hazardous waste was accumulated inside Building 28 on the existing concrete floor.

**A-18. Location:** Page 6-30, paragraph 3

**Text:** The historical potential for release to soils may have been high since containers with liquid waste may have been placed on soils for a period of 20 (plus) years.

**Technical Correction:** None.

**Comment:** Containers with liquid waste were never placed on soils. Prior to the placement of the exterior concrete in late 1990, all hazardous waste was accumulated inside Building 28 on the concrete floor.

**A-19. Location:** Page 6-33, Section 6.2.8 SAA Table

**Text:**

| SWMU No. | Bay No. (Figure 6-3) | Name/Department | Wastes Managed (EPA ID No.)                                 | Indoor/Outdoor |
|----------|----------------------|-----------------|---|----------------|
| 35       | Adjacent to HWAA     | Roland Area     | Solvent contaminated trash (F001) and chromium water (D006) | Outdoor        |
| 36       | 31                   | Roland Area     |   | Indoor         |
| 37       | 10                   | Roland Area     |   | Outdoor        |
| 38       | 7                    | Roland Area     |   | Outdoor        |
| 39       | 4                    | Roland Area     | waste propellant (D003)                                     | Outdoor        |
| 40*      | 1                    | Roland Area     | NaN <sub>3</sub> liners (P105)                              | Indoor         |
| 41       | South of Bay 4       | Roland Area     | Solvent contaminated trash (F001)                           | Outdoor        |

**Technical Correction:**

| SWMU No. | Bay No. (Figure 6-3) | Name/Department | Wastes Managed (EPA ID No.)             | Indoor/Outdoor |
|----------|----------------------|-----------------|---|----------------|
| 35       | -                    | -               | -                                       | -              |
| 36       | Bldg. 26 Bay 6       | Roland Area     | solvent contaminated trash (F001, F003) | Indoor         |
| 37       | 10                   | Roland Area     | propellant (D003)                       | Outdoor        |
| 38       | 7                    | Roland Area     | propellant (D003)                       | Indoor         |
| 39       | 4                    | Roland Area     | propellant (D003)                       | Indoor         |

|     |   |             |   |                   |
|-----|---|-------------|---|-------------------|
| 40* | 1 | Roland Area | Current: chromium water (D007);<br>Historic: NaN <sub>3</sub> liners (P105) | Outdoor<br>Indoor |
| 41  | - | -           | -   | -                 |
| -   | 2 | Roland Area | NaN <sub>3</sub> propellant (D003)  | Outdoor           |

**Comment:** The Section 6.2.8 Table of the satellite accumulation areas for Building 10 is obsolete. The addition of the above text brings the RFA up to date with respect to SAAs for Plant 3, Building 10.

A-20. **Location:** Page 6-38, paragraph 1

**Text:** Evidence of leakage from an unidentifiable drum was observed (Photo No. 30).

**Technical Correction:** None.

**Comment:** The leaking poly drum was identified and replaced immediately (the day of the VSI). Only a few gallons of water had leaked from the drum.

A-21. **Location:** Page 6-41, paragraph 1

**Text:** A TDS employee indicated that AP mop water has been routinely disposed of "down the commode" (i.e., into a septic tank) in the past. (U:1, S)

**Technical Correction:** A TDS employee indicated that ~~bathroom~~ mop water has been routinely disposed of "down the commode" (i.e., into a septic tank) in the past. (U:1, S)

**Comment:** AP mop water has never been disposed of down the commode. Bathroom mop water has been and is currently being disposed of down the commode. At one time, bathroom mop water was collected and discharged into the Mesa sewer system under Permit #171. AOC No. 11 (on page 7-6) correctly identifies the discharge (as bathroom mop water) to the Plant 4 septic system.

A-22. **Location:** Page 6-45, paragraph 1

**Text:** ~~Sodium azide and cupric oxide powders are compressed together to manufacture sodium azide propellant in this building. (dd:6)~~ This unit consists of the SAA (item no. 87 on Table 6.3) associated with the industrial processes conducted here. Using remote-controlled handling and video equipment, operators mix AP (ignition source) with hydroxyterminated polybutadiene (binder/fuel source) in this 20 ft x 30 ft structure. The putty-like mixture is wiped off mixing blades with dry rags. These rags are accumulated as propellant contaminated trash inside the building on a concrete floor. (dd:6; S:9; T:25)

**Technical Correction:** This unit consists of the SAA (item no. 87 on Table 6.3) associated with the industrial processes conducted here. Using remote-controlled handling and video equipment, operators mix AP (~~oxygen~~ source) with hydroxyterminated polybutadiene (binder/fuel source) in this 20 ft x 30 ft structure. The putty-like mixture is wiped off mixing blades with dry ~~towels~~. These ~~towels~~ are accumulated as propellant contaminated trash inside the building on a concrete floor. (dd:6; S:9; T:25)

**Comment:** Sodium azide and cupric oxide were never used in Building 22. Additionally, the RFA does not contain a copy of Table 6-3.

A-23. Location: Page 6-45, paragraph 5

**Text:** AP contaminated debris (D003) is accumulated here. In addition, AP contaminated mop water (nonhazardous) is generated here (S: T). Historically, NaN<sub>3</sub> liners (bags) were disposed of as a listed waste (P105) at Rollin's facility in Deer Park, Texas (dd:6)

**Technical Correction:** AP propellant contaminated debris (D003) is accumulated here. In addition, AP contaminated mop water (nonhazardous) is generated here (S: T).

**Comment:** NaN<sub>3</sub> liners were never generated at Building 22.

A-24. Location: Page 6-47, paragraph 5

**Text:** Historically, listed waste P105 was also handled here.

**Technical Correction:** Historically, NaN<sub>3</sub>, but not NaN<sub>3</sub> liners (P105) was handled here.

**Comment:** Listed waste P105 (discarded commercial chemical products, off-specification species, container residues or spill residues) was never handled at Building 24.

A-25. Location: Page 6-60, paragraph 3

**Text:** The potential for historical releases from the SIs to the soil may be medium if the height of the freeboard maintained was inadequate. The potential for releases from the deteriorated drums is unknown, but if the drums were placed on soil, and allowed to stand for ten (plus) years, the potential may be high.

**Technical Correction:** None.

**Comment:** The freeboard height was maintained at several feet. The drums were never placed on soil; they were placed on the plastic liner on top of the asphalt.

A-26. Location: Page 6-61, paragraph 2, bullet 2

**Text:** • The "auxiliary equipment" used on the burn pad:

- Two burn boxes - 4 ft by 4 ft by 6 ft box on 10-in. legs (Photo No. 51);
- Two burn cages - 2.8 ft by 2.4 ft by 2.2 ft on 12-in legs (Photo No. 51); and

**Technical Correction:** Add a bullet.

- Four burn Pans - 4 ft by 8 ft by 4 in.

**Comment:** During the time of the VSI, all open burning occurred in a burn box, a burn cage or on a burn pan. There was no open burning directly on soil.

A-27. Location: Page 6-62, insert new text before first paragraph

**Text:** None.

**Technical Correction:** The following elements are proposed in the January 17, 1994 Part B Permit Application response to the ADEQ first Notice of Deficiency:

**Large Burn Boxes** - Located in Burn Areas #2-#3. These are 4 foot wide x 8 foot long x 7 foot high, mild steel boxes on legs. The boxes are baffled and covered (top) with heavy grating to prevent expulsion of large particles and propulsive items. The boxes have two steel doors approximately 3 feet x 3 feet. The boxes can withstand short term flame temperatures of 5600 F. The floor of the burn box has a water tight weld. The box has two (2) two inch nipples. These nipples are capped (i.e., no drainage). The boxes are covered with sheet metal covers during periods of inactivity to prevent rainwater from entering the unit.

**Small Burn Boxes** - Located in Burn Areas #4-#5. They are 4 feet by 4 feet by 6 feet mild steel boxes on 10 inch legs. The boxes are baffled to prevent expulsion of potentially propulsive items and have one 3 foot 5 inch x 4 foot door. The boxes can withstand short term flame temperatures of 5600 F. The floors of the burn boxes have a water tight weld. The boxes are covered with sheet metal covers during periods of inactivity to prevent rainwater from entering the unit.

**Burn Pad** - Located in Burn Area #1. A 10 foot x 12 foot x 1 inch mild steel plate elevated on a concrete block sand filled structure in Burn Area #1. A 4 inch high x 1 inch thick steel curb is provided completely around the steel plate. The steel plate/curb has a water tight weld. Rainwater is evaporated from the curbed area. The steel pan can withstand short term flame temperatures of 2100 F.

**Comment:** The addition of the above text brings the RFA current with respect to present and proposed Burn Ground treatment units. Since the VSI, one of the large burn boxes has been put into use (see Appendix 2). The burn boxes have replaced the burn pad and burn pad steel plate proposed in the 1992 Part B. Additionally, the proposed greater than 90-day hazardous waste storage area is no longer required and, therefore, not included in the January 17, 1994 Part B Permit application.

**A-28. Location:** Page 6-62, paragraph 1

**Text:** Currently, ash from the burn boxes is accumulated in a satellite accumulation area (location not specified) at a slow rate and is sent to a TSDF facility. TDS stated that the burn boxes were constructed in approximately 1983. Prior to that time, materials containing RCRA-regulated metals were burned on the soil. In addition, for period of time after construction of the boxes, ashes were washed out of the boxes and onto the soil, rather than being collected for off-site shipment.

**Technical Correction:** None.

**Comment:** The hazardous ash from the burn boxes is accumulated in a satellite accumulation container adjacent to the Burn Box. Ashes were never washed out of the burn boxes and onto the soil. The sodium azide propellant burn pan in Pit 6 was washed off onto the soil.

**A-29. Location:** Page 6-64, paragraph 3

**Text:** Currently, the maximum volume of waste burned in a given day is 10,000 pounds; this volume will never exceed the limits stated in the most current ADEQ OAQ open burning permit (a:B-7).

**Technical Correction:** None.

**Comment:** Currently the maximum volume of propellant waste burned in a given day is limited by the Consent Judgement to 1,000 lbs of AP and AN propellant per day, 100 lbs per burn event, three burn events per day for sodium azide and other Class 1.3 propellant and 25 lbs of Class 1.1 propellant per day.

**A-30. Location:** Page 6-64, paragraph 6

**Text:** In November 1986, ADHS observed that TDS was burning propellant containing lead and barium on a metal plate recently installed in order to contain the ash. Some propellant containing lead phosphate may have been burned directly on the ground at that time. The burning of propellant containing lead nitrate occurred in this area during or before 1980.

**Technical Correction:** In November 1986, ADHS observed that TDS was burning propellant containing lead and barium on a metal plate recently installed in order to contain the ash. Some propellant containing lead phosphate may have been burned directly on the ground at that time. The burning of propellant containing lead nitrate occurred in this area ~~in late 1976 or early 1977~~.

**Comment:** The source document for the above text states: "Talley is presently burning propellant that contains lead and barium. Talley recently began using the large rectangular metal structure to contain these propellants during burning." This statement describes and refers to the burn boxes and not a metal plate. The reference to "lead phosphate" should have been to dibasic lead phosphite which is contained only in TAL-200 series propellants in very small concentrations.

A-31. **Location:** Page 6-65, paragraph 2

**Text:** Waste propellant generated at Plant 3 was treated at the BG from 1988 until May 1990 (d:1-11).

**Technical Correction:** ~~Water boreout solids generated at the Plant 3 Water Boreout Operation were treated at the Burn Ground from 1988 until May 1990 (c:1-11)~~

**Comment:** It is assumed this sentence is derived from (c:1-11) and not (d:1-11) which does not address this issue. (c:1-11) says "During approximately 1988 thru May, 1990, drums containing water boreout solids were transported to Talley's thermal treatment unit (TTU) and 'treated' along with waste propellants generated as a result of Talley's manufacturing operations by means of open burning."

A-32. **Location:** Page 6-65, paragraph 3

**Text:** In April 1990, ADEQ stated that "listed K044 [wastewater] has been disposed at the surface impoundment [WBOPs] and ... sodium azide liners (P105 - acutely toxic) appear to have been burned at TDS [the burn ground] in the past" (w:2,5). In 1988, two shipments of sodium azide liners were rejected at the BG (cc:6). During a 1988 inspection, pictures were taken of standing liquid in one of the burn pits (u:2).

**Technical Correction:** None.

**Comment:** As was stated in item #A-6, TDS has responded in detail to the allegations listed in the text at the time the allegations were made by ADEQ. It would not be productive to repeat those responses here but please note that TDS does not believe it was in violation of local, state or federal rules or regulations.

A-33. **Location:** Page 7-3, paragraph 2

**Text:** In March 1991 TDS utilized an aboveground storage tank of virgin TCA. Documented releases of TCA have occurred during transfers. (dd:7; L:10-2)

**Technical Correction:** None.

**Comment:** An above ground gasoline tank at Plant #3 was the only above ground storage tank at Plants 2, 3, 4, 6 and the Burn Ground. All TCA at these plants was received and handled in 55-gallon drums. There are no known releases of TCA occurring during transfers.

**A-34. Location:** Page 7-7, paragraph 4

**Text:** AOC No. 15: Unknown Disposal on Abandoned Area

**Technical Correction:** None.

**Comment:** Concentrated recollection reveals that there were two (2) smoke eliminators for the test firing of smoke grenades and canisters in this location in the late sixties. These eliminators consisted of a large test firing chamber connected to a long horizontal culvert with an exhaust fan leading to a combustion chamber fired with a fuel oil burner. The exhaust fan moved the smoke from the test chamber through the culvert into the combustion chamber which ignited and burned the smoke prior to discharge through a vertical stove pipe. The combustion chambers were lined with fire brick probably some of which are seen in Photos No. 63 and 64. One line of open fire sprinkler heads was mounted in the horizontal culvert of the canister unit. The purpose was to periodically wash any sublimed dye from the culvert into a concrete sump. That sump is probably still in place in the debris shown in Photos 63 and 64. The yellow substance is probably sublimed dye.

Further examination of Photo No. 67 indicates the debris shown in this photo is the remnant of fired thermite hand grenades. Apparently a number of such grenades were test fired on the ground in this location.

**A-35. Location:** Page 7-9, paragraph 2

**Text:** TDS stated that the complaint was a result of an inspection. It is more likely that an inspection resulted from the anonymous complaint. In either case, TDS said they had heard of a complaint and that an ADHS inspector visited TDS and did not observe any evidence of spillage. In addition, no photos were taken during the inspection. TDS said that they had "no knowledge" of such dumping. TDS's Donovan Jones stated that "I have absolutely no knowledge of the release of TCE to groundwater [at TDS site]." TDS further stated that management has never directed employees to dispose of TCE by dumping it onsite. TDS indicated that Falcon Field, located to the south of TDS, had been operating since the 1940s and that it used TCE in its historical operations. (W:8; T:17)

**Technical Correction:** TDS stated that the complaint was a result of an inspection. It is more likely that an inspection resulted from the anonymous complaint. In either case, TDS said they had heard of a complaint and that an ADHS inspector visited TDS and did not observe any evidence of spillage. In addition, no photos were taken during the inspection. TDS said that they had "no knowledge" of such dumping. TDS's Donovan Jones stated that "I have absolutely no knowledge of the release of TCA or TCE to groundwater [at TDS site]." TDS further stated that management has never directed employees to dispose of TCA or TCE by dumping it onsite. TDS indicated that Falcon Field, located to the south of TDS, had been operating since the 1940s and that it used TCE in its historical operations. (W:8; T:17)

**Comment:** The inspection did indeed result from the anonymous complaint, not vice versa.

**A-36. Location:** Page 8-2, paragraph 1

**Text:** The source of this contamination is currently under investigation by ADEQ.

**Technical Correction:** None.

**Comment:** TDS has presented a proposal to ADEQ to do a Soil Gas Analysis Survey to identify ground water contamination from halocarbons, specifically TCE, in the groundwater near the south property boundary of TDS, Plant 3 and around well 34 cab. Subsequently ADEQ has proposed a fourth monitoring well and TDS has withdrawn its Soil Gas Analysis Survey proposal until the monitoring well results are established.

**A-37. Location:** Page 8-7, paragraph 3

**Text:** Other constituents of potential concern include toluene and methylene chloride, both of which have been detected in wastewater samples at TDS (Z:Appendix 2).

**Technical Correction:** None.

**Comment:** Please note that although both toluene and methylene chloride have, at times, been detected in wastewater samples, the concentrations when detected have been in the parts per billion (ppb) range. Attached as Appendix 3 is a copy of the most recent analyses of volatile organic compounds in wastewater.

**B AMENDMENTS:**

**B-1. Location:** Page 2-1, paragraph 2

**Text:** Plants 1, 2, 3, 4, 6, and the "Burn Ground" are involved to varying degrees in the management of solid wastes. Plant 5 is an administrative building only and does not manage industrial waste streams.

**Technical Correction:** Plants 1, 2, 3, 4, 6 and the "Burn Ground" are involved to varying degrees in the management of solid wastes. Plant 5 is an administrative building and manages nonhazardous industrial wastewater only.

**Comment:** Plant 5 generates nonhazardous ammonia wastewater from its blueprinting operation.

**B-2. Location:** Page 2-2, paragraph 2.

**Text:** The term "Burn Ground" (BG) in this report refers specifically to the six burn-pits and surrounding area located inside the fence depicted on Figure 2-2 as the Thermal Treatment Unit (open burn/open detonation area) located to the north of Plant 2.

**Technical Correction:** The term "Burn Ground" (BG) in this report refers specifically to the six burn-pits and surrounding area located inside the fence depicted on Figure 2-2 as the Thermal Treatment Unit (open burn area) located to the north of Plant 2.

**Comment:** The Burn Ground no longer open detonates waste materials.

**B-3. Location:** Page 2-3, paragraph 2.

**Text:** TDS stated that TAP never had a production line, but conducted research into construction of air bags only (W:5).

**Technical Correction:** TDS stated that TAP never had a production line, but conducted research into construction of air bag systems only (W:5).

**Comment:** The TAP operation could also have been considered a very low volume production line.

**B-4. Location:** Page 3-5, paragraph 2

**Text:** However, no allusion to the existence of historical or current accumulation or storage areas at any plant is made (m; n:1). ADEQ will address this discrepancy in the future (n:1).

**Technical Correction:** None.

**Comment:** TDS has addressed this concern in the January 17, 1994 Part B Response to the first NOD received from ADEQ.

**B-5. Location:** Page 3-7, paragraph 2

**Text:** TDS is permitted to sewer wastewater having concentrations of ammonium perchlorate up to 1,000 mg/L (ii:10;4:1,3;C:2)

**Technical Correction:** TDS is permitted to sewer wastewater having concentrations of ammonium perchlorate up to 1,000 mg/L and a variety of other wastewaters as identified in the TDS City of Mesa Industrial Wastewater Discharge Permit No. 188 (ii:10;4:1,3;C:2)

**Comment:** TDS received its most recent Industrial Wastewater Discharge Permit on 4/7/93. The new permit number is 188.



- B-6. **Location:** Page 3-8, Table 3-1, 10/29/86 & 11/5/86 Inspection  
**Text:** Burning of lead nitrate containing propellant at the BG occurred prior to or during 1980.  
**Technical Correction:** Burning of lead nitrate containing propellant at the BG occurred in late 1976 or early 1977.  
**Comment:** None.
- B-7. **Location:** Page 3-9, paragraph 1  
**Text:** In addition to the inspections listed above, a Consent Judgement between ADEQ and TDS was signed on August 30, 1991. It contained the following conditions which required TDS's compliance (kk; ii:5-7).  
**Technical Correction:** In addition to the inspections listed above, a Consent Judgement between ADEQ and TDS was signed on September 6, 1991.  
**Comment:** The Consent Judgement was actually signed by the administrative law judge on 9/6/91. The Consent Judgement contained sixteen conditions listed on pages 3-9, 3-10 and 3-11. TDS has complied with all sixteen conditions, but in its response to the State of Arizona Request for Admission, TDS admitted only for purposes of settlement of the pending action and not for any other purpose, that it or its employees violated the rules promulgated pursuant to the Arizona Hazardous Waste Management Act as they were construed by the Arizona Department of Environmental Quality.
- B-8. **Location:** Page 3-9, Item #2  
**Text:** TDS submitted the required Part B Permit Application on November 8, 1988.  
**Technical Correction:** TDS submitted the required Part B Permit Application on January 2, 1992.  
**Comment:** The original Part B Permit application was submitted on 11/8/88. A revised Part B Permit application was submitted on 1/2/92.
- B-9. **Location:** Page 3-10, Item #7  
**Text:** TDS must post at least two trained sentries with access to two-way communication or reliable means of positive signaling during all burn events to limit access from all areas.  
**Technical Correction:** TDS must post at least ~~three~~ trained sentries with access to two-way communication or reliable means of positive signaling during all burn events to limit access from all areas.  
**Comment:** None.
- B-10. **Location:** Page 4-1, paragraph 3  
**Text:** In addition, TDS has manufactured  $\text{NaN}_3$  propellants for use in automotive air bag inflators and manufactured gas generators at Plant 2. A typical use of a gas generator would be to start aircraft propellers in the field where no other power source is available.  
**Technical Correction:** In addition, TDS has manufactured  $\text{NaN}_3$  propellants at Plant 3 for use in automotive air bag inflators and manufactured gas generators at Plants 2 and 3. A typical use of a gas generator would be to start ~~jet aircraft engines~~ in the field where no other power source is available.  
**Comment:** None.

**B-11. Location:** Page 4-1, paragraph 4

**Text:** The hazardous wastes burned at this time were apparently generated at Plant 1.

**Technical Correction:** The hazardous wastes burned at this time were apparently generated at Plants 1, 2 and 3.

**Comment:** None.

**B-12. Location:** Page 5-3, paragraph 4

**Text:** If this is the case, TDS may have to reevaluate its position regarding the potential for BG activities to contaminate groundwater.

**Technical Correction:** None.

**Comment:** TDS addresses this issue and the issue raised on page 6-68, paragraph 2 in the January 17, 1994 Part B Permit application.

**B-13. Location:** Page 5-5, paragraph 2.

**Text:** The southern wall of the Southern Canal is located approximately 500 feet to the northwest of the BG (a:App. B-D, X-10; m:Figure III-2).

**Technical Correction:** The southern wall of the Southern Canal is located approximately 500 feet to the northwest of the BG perimeter.

**Comment:** The Southern Canal is located approximately 750 feet from the Burn Ground treatment units.

**B-14. Location:** Page 6-4, paragraph 1

**Text:** Aside from the ring on the floor visible in Photo No. 5, no evidence of releases from any of the SAAs was discovered in the file review or during the VSI.

**Technical Correction:** Aside from the ring on the painted floor visible in Photo No. 5, no evidence of releases from any of the SAAs was discovered in the file review or during the VSI.

**Comment:** This floor has been painted (sealed) with a conductive floor paint. The ring stains are from drums which held solid phase material.

**B-15. Location:** Page 6-5, paragraph 1

**Text:** It is not locked during business hours, however, the Plant 2 entry guard (24 hours) is located nearby to the south.

**Technical Correction:** It is not locked during business hours, however, the Plant 2 entry gate is guarded or locked 24 hours per day.

**Comment:** None.

**B-16. Location:** Page 6-5, paragraph 4

**Text:** This SAA is also used for waste petroleum naphtha (nonhazardous). (S:12; T:29)

**Technical Correction:** None.

**Comment:** Petroleum naphtha and Rinsolve are synonyms for the same material.

**B-17. Location:** Page 6-11, paragraph 4

**Text:** This HWAA has always managed "nonpropellant" wastes such as blast residue, blast residue contaminated trash, and liquids. Three drums were in accumulation within the interior hazardous waste storage section during the VSI; the contents of the drums is unknown because the storage area was locked.

**Technical Correction:** This HWAA has always managed "nonpropellant" wastes such as blast residue, solvent contaminated trash, and liquids. Three drums were in accumulation within the interior hazardous waste storage section during the VSI; the contents of the drums is unknown because the storage area was locked.

**Comment:** It is presumed that the writer meant solvent contaminated trash as TDS has never managed blast residue contaminated trash.

Also, the drums in accumulation during the VSI were one solvent contaminated trash and two blast media drums.

**B-18. Location:** Page 6-18, paragraph 1

**Text:** Sodium azide propellant was manufactured and cured AP propellant is assembled into finished product. Magnesium teflon propellant may have been manufactured here also (cc:3). Spray painting was also conducted at two booths. (z:5,6; dd:6)

**Technical Correction:** Sodium azide propellant was manufactured and AP propellant is manufactured and assembled into finished product. Magnesium teflon propellant is manufactured here also (cc:3). Spray painting was also conducted at one booth. (z:5,6; dd:6)

**Comment:** There is only one spray painting booth located at Plant 3 (Line 2).

**B-19. Location:** Page 6-18, paragraph 3

**Text:** Waste paint filters, possibly containing RCRA-regulated metals, are generated at paint booths (dd:6).

**Technical Correction:** Waste paint filters, possibly containing RCRA-regulated metals, are generated at the paint booth (dd:6).

**Comment:** Same comment as B-18.

**B-20. Location:** Page 6-19, paragraph 1

**Text:** Line 1 houses research, maintenance, and AP device assembly operations (S:3).

**Technical Correction:** Line 1 houses research, maintenance, and AP propellant device assembly operations (S:3).

**Comment:** None.

**B-21. Location:** Page 6-24, paragraph 1

**Text:** Line 2 is involved primarily in the production of AP propellant (S:3; T:11).

**Technical Correction:** Line 2 is involved primarily in the production, assembly and testing of AP propellant systems (S:3; T:11).

**Comment:** None.

**B-22. Location:** Page 6-26, paragraph 4

**Text:** Facility representatives were unable to provide historical information regarding wastes managed.

**Technical Correction:** None.

**Comment:** Propellant waste (D003) is the only type of wastes ever managed at this unit.

**B-23. Location:** Page 6-29, paragraph 4

**Text:** Currently, this HWAA manages nonpropellant waste manifested as D001 (T:41).

**Technical Correction:** Currently, this HWAA manages all the nonpropellant waste from Plant 3.

**Comment:** None.

**B-24. Location:** Page 6-33, paragraph 1

**Text:** Building 10 formerly was a propellant grinding area.

**Technical Correction:** Building 10 formerly was and still is a propellant grinding area.

**Comment:** None.

**B-25. Location:** Page 6-34, paragraph 1

**Text:** With the exception of SWMU No. 39, all SAAs are currently used. (S;T)

**Technical Correction:** With the exception of SWMU No. 40, all SAAs are currently used. (S;T)

**Comment:** None.

**B-26. Location:** Page 6-35, paragraph 2

**Text:** The bore out building: Solid AP and smaller amounts of AN propellant were removed from metal rocket motor casings in this building. Casings were placed sideways inside a large metal cabinet equipped with a high pressure water lance (Photo No. 31). Operated by remote control, the lance rotated inside the hollow center of a casing, cutting out large chunks of propellant that fell into a screened catch basin in the floor.

**Technical Correction:** The bore out building: Solid AP propellant and possibly small amounts of solid AN propellant were removed from metal rocket motor casings in this building. Casings were placed sideways inside a large metal cabinet equipped with a high pressure water lance (Photo No. 31). Operated by remote control, the casing rotated around the lance located inside the hollow center of a casing, cutting out large chunks of propellant that fell into a screened catch basin in the floor.

**Comment:** None.

**B-27. Location:** Page 6-35, paragraph 3

**Text:** The wastewater contained dissolved AP that was burned in-situ at the WBOPs as needed. (S:18; T:39)

**Technical Correction:** The wastewater contained dissolved AP and polymer solids. The polymer was burned in-situ at the WBOPs as needed. (S:18; T:39)

**Comment:** All AP was either in the propellant chunks screened at the bore out building or in solution. The solids which accumulated in the pits and was ultimately burned was polymer material.

**B-28. Location:** Page 6-36, paragraph 4

**Text:** Until approximately 1988, accumulated waste AP and AN propellants (D003) and fine-grained alluvial material in the bottom of the pits were open burned (in the pits). In 1985, the waste propellant generated through hydrostatic blowout comprised 10 percent of the total waste propellant generated at Plant 3 (z:6). These waste propellants contained cadmium, chromium and lead at unknown concentrations. From 1988 until its closure, accumulated AP and AN waste propellant was burned at the BG. (d:1-11\_14; S:T)

**Technical Correction:** Until approximately 1988, accumulated waste AP polymer and possibly small amounts of AN rubber and fine-grained alluvial material in the bottom of the pits were open burned (in the pits). In 1985, the waste polymers generated through hydrostatic boreout comprised 10 percent of the total waste propellant generated at Plant 3 (z:6). These waste polymers/rubber contained cadmium, chromium and lead at unknown concentrations. From 1988 until termination of the boreout operation, accumulated AP waste polymer and AN waste rubber was burned at the BG. (d:1-11\_14; S:T)

**Comment:** The waste propellants managed at this unit contained no cadmium, chromium or lead. The source of the very small concentrations of cadmium and chromium that was found in soil samples is probably from erosion of the metal casings by the high pressure water lance. The source of the very small concentrations of lead found in the soil samples is probably from a lead containing adhesive used in some rocket motors.

The "10 percent" was strictly an estimate given in response to an inspectors question during the inspection in 1985. The quantity generated through hydrostatic bore out was probably much less than 10%.

**B-29. Location:** Page 6-39, paragraph 2

**Text:** Hazardous and nonhazardous wastes accumulated at SAAs are moved to HWAAs by either the lead person of the department or by the Environmental Department.

**Technical Correction:** Hazardous and nonhazardous wastes accumulated at SAAs are moved to HWAAs by Hazardous Waste Movers (HWMs)

**Comment:** Hazardous Waste Movers receive annual training in hazardous waste management procedures.

**B-30. Location:** Page 6-40, paragraph 1

**Text:** At the time of VSI, there were eight cargotainers with bagged propellant waste and several drums of waste propellant (Photo No. 34). (T:23)

**Technical Correction:** At the time of VSI, there were eight cargotainers with bagged propellant waste and several drums of waste water (Photo No. 34). (T:23)

**Comment:** The drums consisted of AP and/or AN wastewater.

**B-31. Location:** Page 6-40, paragraph 3

**Text:** This storage pad was constructed in approximately between 1978 and 1981. (T:13)

**Technical Correction:** This storage pad was constructed in 1984. (T:13)

**Comment:** None.

**B-32. Location:** Page 6-40, paragraph 6

**Text:** Plant 4 began phasing out the use of TCA approximately in April 1992, and currently does not use that solvent (T:13), due primarily to the type of contract that Plant 4 currently operates under (T:23).

**Technical Correction:** Plant 4 began phasing out the use of TCA approximately in April 1992, and currently does not use that solvent (T:13), due primarily to TDS's efforts towards eliminating/reducing ozone depleting chemicals (T:23).

**Comment:** None.

**B-33. Location:** Page 6-43, paragraph 3

**Text:** It is not known when the TCA parts washer was decommissioned here.

**Technical Correction:** None.

**Comment:** The parts washing solvent was changed from TCA to Rinsolve 140 (nonhazardous waste) in 1993.

**B-34. Location:** Page 6-44, paragraph 6

**Text:** TCA emissions in the past could have been significant depending if the partswasher was a "hot" washer or cold, and the frequency the cleaner was used.

**Technical Correction:** None.

**Comment:** The partswasher was and still is a cold tank used on a daily basis.

**B-35. Location:** Page 6-49, paragraph 2

**Text:** Formerly present at this building were a series of drains designed to carry propellant wash water to a non discharging sump that was located next to the former TCA SAA (current solid phase waste SAA) was located (Photo Nos. 43 and 44). The drains and sump have been filled with concrete.

**Technical Correction:** Formerly present at this building were a series of drains designed to carry propellant ingredient wash water to a non discharging sump that was located next to the former TCA SAA (current liquid phase nonhazardous waste SAA) was located (Photo Nos. 43 and 44). The drains and sump were never used and have been filled with concrete.

**Comment:** None.

**B-36. Location:** Page 6-49, paragraph 4

**Text:** Facility representatives did not know when the drains and sump were filled in.

**Technical Correction:** None.

**Comment:** The drains and sump were never used and were filled in March, 1991.

**B-37. Location:** Page 6-53, paragraph 1

**Text:** Currently, Building 1 primarily houses administrative offices, although a contract to manufacture classified devices is currently ongoing on the first floor. RCRA-regulated waste streams are generated by the TDS Publications Department as discussed below. Historically, TDS assembled inflators, ignitors, enhancer packs, and  $\text{NaN}_3$  disks (used in airbag inflator devices) here.

**Technical Correction:** Currently, Building 1 primarily houses administrative offices, although a contract to engineer classified devices was ongoing on the first floor during the VSI RCRA-regulated waste streams are generated by the TDS Publications Department as discussed below. Historically, TDS assembled inflators, ignitors, enhancer packs, and NaN<sub>3</sub> propellant disks (used in airbag inflator devices) here.

**Comment:** None.

B-38. **Location:** Page 6-54, paragraph 2

**Text:** The date the unit was first used was not discovered.

**Technical Correction:** None.

**Comment:** The unit was first used in August 1993.

B-39. **Location:** Page 6-56, paragraph 2

**Text:** The unit was most likely used since the construction of Plant 3 in the late 1960's.

**Technical Correction:** The unit was most likely used since the construction of Plant 6 in the late 1960's.

**Comment:** None.

B-40. **Location:** Page 6-56, paragraph 3

**Text:** Unknown.

**Technical Correction:** None.

**Comment:** The unit was closed as of April 1991.

B-41. **Location:** Page 6-56, paragraph 4

**Text:** It is not known if this was a one time occurrence, or is only one drum was accumulated at a time.

**Technical Correction:** It is not known if this was a one time occurrence, or if only one drum was accumulated at a time.

**Comment:** Several drums were accumulated at a time.

B-42. **Location:** Page 6-58, paragraph 2

**Text:** The asphalt was not removed prior to backfilling.

**Technical Correction:** The asphalt was not removed but was broken up prior to backfilling.

**Comment:** None.

B-43. **Location:** Page 6-60, paragraph 1

**Text:** It is not known if the drums here placed on soil or asphalt.

**Technical Correction:** It is not known if the drums were placed on soil or asphalt.

**Comment:** The drums were placed on the plastic liner on top of the asphalt.

**B-44. Location:** Page 6-60, paragraph 2

**Text:** However, the extent to which the deteriorated drums may have spilled their contents to the ground (if placed on the soil) is not known.

**Technical Correction:** None.

**Comment:** The drums were not placed on soil, they were placed on the plastic liner on top of the asphalt.

**B-45. Location:** Page 6-60, paragraph 4

**Text:** Air: If crystallized waste was dispersed through the air by the wind, the surface area of the drum pile exposed to the wind may have been small (assumption), and may have resulted in a medium potential for release to this media.

**Technical Correction:** None.

**Comment:** There was never any visual evidence of windblown green particulate around the SIs.

**B-46. Location:** Page 6-61, paragraph 3, bullet 4

**Text:** The burn pan (10 ft by 12 ft by 1-in. steel plate surrounded by a steel, 4-in.-high, 1-in.-wide barrier) used in burn pit 6 for the burning of waste sodium azide propellant only.

**Technical Correction:** The burn pan (10 ft by 12 ft by 1-in. steel plate surrounded by a steel, 4-in.-high, 1-in.-wide barrier) used in burn pit 6 for the burning of waste sodium azide propellant only.

**Comment:** None.

**B-47. Location:** Page 6-62, paragraph 3

**Text:** In December 1991, the burning of waste  $\text{NaN}_3$  propellant had recently been moved to pit 6 from pit 1.

**Technical Correction:** In December 1991, the burning of waste  $\text{NaN}_3$  propellant had recently been moved to pit 6 from pit 1.

**Comment:** None.

**B-48. Location:** Page 6-62, paragraph 3

**Text:** For a period of time,  $\text{NaN}_3$  propellant was burned in a burn pan located in pit 1; the pan was removed and is currently stored outdoors at Plant 3, to the north of Building 29 (see AOC No.7). TDS stated that upon removal from pit 1, there was no evidence of soil staining under the burn pan. Wash water used to clean the burn surface collected in the catchment basin in the corner of the burn pan, and was pumped into poly drums at the BG. (t:8; S:17, T:37)

**Technical Correction:** For a period of time,  $\text{NaN}_3$  propellant was burned on a burn pan and rinsed into a sump located in pit 1; the sump was removed and is currently stored empty outdoors at Plant 3, to the north of Building 29 (see AOC No.7). TDS stated that upon removal from pit 1, there was no evidence of soil staining under the burn sump. Wash water used to clean the burn surface was collected in the sump, and was pumped into poly drums at the BG. (t:8; S:17, T:37)

**Comment:** None.



**B-49. Location:** Page 6-63, paragraph 1

**Text:** All "potentially reactive" (unburned) material is collected, containerized as hazardous waste, and accumulated at an unspecified location until it is burned at the next burn event.

**Technical Correction:** None.

**Comment:** The "potentially reactive" (unburned) material is accumulated in a satellite accumulation container adjacent to the burn box.

**B-50. Location:** Page 6-63, paragraph 2

**Text:** Historically, the burn pits (pits 2-4 or pits 2-5, depending on the year) were distinct pits, each separated by earthen berms. In April 1985 the pits were unlined (z:4). The berms were removed to make room for the 50 ft by 50 ft proposed concrete burn pad (not yet constructed).

**Technical Correction:** Historically, the burn pits [pits 2-5] were distinct pits, each separated by earthen berms. In April 1985 the pits were unlined (z:4). The berms were removed for safety reasons.

**Comment:** The berms were removed to improve personnel safety by providing significantly reduced impedance to rapid departure in the event of an inadvertent ignition.

**B-51. Location:** Page 6-64, paragraph 1

**Text:** The burn boxes were constructed in approximately 1883.

**Technical Correction:** The burn boxes were constructed in approximately 1983. The new burn box was constructed in December 1993.

**Comment:** None.

**B-52. Location:** Page 6-64, paragraph 2

**Text:** TDS stated that as of October 1993, the BG was used about 3 times each month.

**Technical Correction:** None.

**Comment:** Since the VSI, activity at the Burn Ground has averaged six burns per month.

**B-53. Location:** Page 6-65, paragraph 6

**Text:** In the near future, TDS may burn neat (pure) AP. TDS is conducting research into recrystallizing AP from waste AP propellant. If successful, this will reduce the amount of AP burned at the BG. (W:7)

**Technical Correction:** In the near future, TDS may burn off-spec, non-recyclable AP. TDS is conducting research into recrystallizing AP from waste AP propellant. If successful, this will reduce the amount of AP propellant burned at the BG. (W:7)

**Comment:** None.

**B-54. Location:** Page 6-66, paragraph 1

**Text:** In order to assess the wind conditions at the BG rather than at Plant 2, where wind data collection apparatus has been installed pursuant to the consent judgement, TDS releases a weather balloon inside the BG prior to each burn event. (W:7).

**Technical Correction:** In order to assess the wind conditions at the BG in addition to Plant 2, where wind data collection apparatus has been installed pursuant to the ADEQ Air Quality Permit requirement TDS releases a weather balloon inside the BG prior to each burn event. (W:7).

**Comment:** None.

B-55. **Location:** Page 6-67, paragraph 3

**Text:** As a result, an unspecified amount of soil was removed from an unspecified location in December 1991. (a:D-5)

**Technical Correction:** None.

**Comment:** Approximately 177,000 lbs of soil was removed from the Burn Ground and sent to an approved TSDF in December 1991.

B-56. **Location:** Page 7-3, paragraph 1

**Text:** It was not determined if TDS analyzes samples of this discrete waste stream on a regular basis.

**Technical Correction:** None.

**Comment:** TDS analyzes this waste stream on an annual basis. The results of the most recent analyses are included as Appendix 4.

B-57. **Location:** Page 7-5, paragraph 1

**Text:** TDS used a catchment basin, constructed of steel and having dimensions of approximately 12 ft x 12 ft x 3/8 in. thick, during  $\text{NaN}_3$  burn events in pit 1 until early 1991 (Photo No. 58). Apparently waste  $\text{NaN}_3$  propellant was burned on the surface of the catchment basin. Burn residue was washed into the sump in the corner of the basin.

**Technical Correction:** TDS used a catchment basin, constructed of stainless steel and having dimensions of approximately 10 ft x 12 ft x 1/8 in. thick, during  $\text{NaN}_3$  burn events in pit 1 until early 1991 (Photo No. 58). Waste  $\text{NaN}_3$  propellant was burned on the burn pan. Burn residue was washed into the catchment basin.

**Comment:** The "catchment basin" referred to in the second paragraph is the "sump" referred to in the first paragraph of this AOC.

B-58. **Location:** Page 7-5, paragraph 4

**Text:** AOC No. 9: Lead and chromium contaminated soil at BG in May 1989.

**Technical Correction:** None.

**Comment:** The site assessment plan for the BG submitted to ADEQ on November 4, 1991 addresses soil sampling for lead and chromium.

B-59. **Location:** Page 7-5, paragraph 6

**Text:** TDS operates one laboratory at the Mesa plants, located at Plant 3, Line 2.

**Technical Correction:** TDS operates one research laboratory at the Mesa plants, located at Plant 3, Line 1.

**Comment:** None.

**B-60. Location:** Page 7-5, paragraph 6

**Text:** Mixed research wastes (nonradioactive), halogenated and nonhalogenated solvents, solvent contaminated trash, and corrosives are lab packed and manifested for offsite disposal. (W:11, T:21) The lab was clean and orderly.

**Technical Correction:** Mixed research wastes (nonradioactive), halogenated and nonhalogenated solvents, solvent contaminated trash, and corrosives are ~~drummed~~ and manifested for offsite disposal. (W:11, T:21) The lab ~~area was~~ clean and orderly.

**Comment:** None.

**B-61. Location:** Page 7-6, paragraph 2

**Text:** AOC No. 12: Cesspool at Plant 3

**Technical Correction:** None.

**Comment:** ADEQ has scheduled TDS to file an Aquifer Protection Permit which will include this cesspool on April 30, 1995.

**B-62. Location:** Page 7-7, paragraph 1

**Text:** During the file review at the VSI manifests reflecting the shipment of TRW waste propellant (from Plant 3) to the TDS burn ground were discovered (Z:2). These manifest forms indicate that both TDS and TRW generated propellant waste at both Plants 3 and 6. (S:3; T:12)

**Technical Correction:** None.

**Comment:** A manifest file review shows that TRW did indeed ship propellant waste from Plant 3 to the Burn Ground. The dual operations occurring in 1990 (TDS & TRW) make it difficult to separate the TRW and TDS operations.

**B-63. Location:** Page 7-7, paragraph 3

**Text:** TDS stated that no waste was generated from TRW operations in Plant 6. During the file review at the VSI manifests reflecting the shipment of TRW waste propellant (from Plant 3) to the TDS burn ground were discovered (Z:2). These manifest forms indicated that both TDS and TRW generated propellant waste at both Plants 3 and 6 (W:5; T:12).

**Technical Correction:** TDS stated that no waste was generated from TRW operations in Plant 6. During the file review at the VSI manifests reflecting the shipment of TRW waste propellant (from Plant 6) to the TDS burn ground were discovered (Z:2). These manifest forms indicated that both TDS and TRW generated propellant waste at both Plants 3 and 6 (W:5; T:12).

**Comment:** A manifest file review shows that TRW did indeed ship propellant waste from Plant 6 to the Burn Ground. The dual operations occurring at Plant 6 (TDS & TRW) make it difficult to separate the TRW and TDS operations.

**B-64. Location:** Page 8-4, paragraph 2

**Text:** Some leaking of product in storage and subsequent migration to soil immediately surrounding the HWAA was observed at Plant 2, Building 20.

**Technical Correction:** Some ~~evidence of past~~ leaking of product in storage and subsequent migration to soil was observed at Plant 2, Building 20.

**Comment:** None.

B-65. **Location:** Page 8-6, paragraph 4

**Text:** AP ~~propellant~~ is water soluble.

**Technical Correction:** AP is water soluble.

**Comment:** The AP oxidizer in the propellant is water soluble. The propellant (polymer/binder) is not water soluble.

#### PHOTO LOG AMENDMENTS

B-66. **Location:** Page B-1, Photo No. 1

**Text:** SWMU No. 1 - Plant 2 Paint Booth - This paint booth was moved from TDS' Plant 1 (not evaluated under this RFA) in early 1993 and was installed for use at that time. The booth utilizes two water falls to collect paint fumes.

**Technical Correction:** SWMU No. 1 - Plant 2 Paint Booth - This paint booth was moved from TDS' Plant 1 (not evaluated under this RFA) in early 1993 and was installed for use at that time. The booth utilizes two water falls to collect paint ~~particulates~~.

**Comment:** None.

B-67. **Location:** Page B-1, Photo No. 2

**Text:** SWMU 1 - Plant 2 Paint Booth - The waterfall recirculation trough has a coagulant added to bind paint waste to facilitate removal of wasted paints. The trough is non-discharging and there is no evidence of any drain pipes that would serve to empty the trough.

**Technical Correction:** SWMU 1 - Plant 2 Paint Booth - The waterfall recirculation trough ~~did have~~ a coagulant added to bind paint waste to facilitate removal of ~~paint particulates~~. The trough is non-discharging and there is no evidence of any drain pipes that would serve to empty the trough.

**Comment:** The coagulant is no longer added.

B-68. **Location:** Page B-1, Photo No. 3

**Text:** SWMU No. 1 - Plant 2 Paint Booth Satellite Accumulation Area - This area is inside bay 46 and is positioned on the concrete floor. There were no drums of waste present at the time of the VSI. Typically only one drum of paint wastes is collected at a time. Waste collected here would be generated in the paint booth or the paint prep room (located adjacent to the paint booth).

**Technical Correction:** SWMU No. 1 - Plant 2 Paint Booth Satellite Accumulation Area - This area is inside bay 46 and is positioned on the concrete floor. There were no drums of ~~hazardous~~ waste present at the time of the VSI. Typically only one drum of paint wastes is collected at a time. Waste collected here would be generated in the paint booth or the paint prep room (located adjacent to the paint booth).

**Comment:** None.

B-69. **Location:** Page B-1, Photo No. 4

**Text:** SWMU No. 2 - Plant 2 Sandblast Satellite Accumulation Area - Three drums of waste blast media are positioned on a wooden pallet on the concrete floor within the building. Only dry phase waste is collected here. There are three different types of blasting units associated with this accumulation area: teflon bead, aluminum oxide, and glass bead.

**Technical Correction:** SWMU No. 2 - Plant 2 Sandblast Satellite Accumulation Area - One drum of waste blast media and two drums of virgin media are positioned on a wooden pallet on the concrete floor within the building. Only dry phase waste is collected here. There are three different types of blasting units associated with this accumulation area: teflon bead, aluminum oxide, and glass bead.

**Comment:** None.

**B-70. Location:** Page B-1, Photo No. 7

**Text:** SWMU No. 5 - Plant 2 North Hold Satellite Accumulation Area - This unit, located on the north side of the plant, has historically stored waste ammonium nitrate propellant and liquid 1,1,1-TCA waste; currently liquid acetone / alcohol (flammable N.O.S.) and nonhazardous Rinsolve waste is collected here. Waste propellant has not been collected here since approximately 1990. The unit has always consisted of a fenced concrete pad.

**Technical Correction:** SWMU No. 5 - Plant 2 North Hold Satellite Accumulation Area - This unit, located on the north side of the plant, has historically stored waste ammonium perchlorate propellant; currently liquid acetone / alcohol (flammable N.O.S.) and nonhazardous Rinsolve waste is collected here. Waste propellant has not been collected here since approximately 1990. The unit has always consisted of a fenced concrete pad.

**Comment:** TCA was never accumulated at this unit.

**B-71. Location:** Page B-2, Photo No. 9

**Text:** SWMU No. 7 - Plant 2 East Hold - This 40 foot by 40 foot concrete fenced unit is used to store solid phase propellant-containing wastes for less than 90-days prior to shipment off-site. This area has been used to store propellant-containing wastes since approximately 1967 when the plant was constructed. At that time, and until 1988, this unit was an unpaved and unfenced storage area. The structure, as it exists today, was constructed in 1988.

**Technical Correction:** SWMU No. 7 - Plant 2 East Hold - This 40 foot by 40 foot concrete fenced unit is used to store solid phase propellant-containing wastes for less than 90-days prior to shipment to the BG. This area has been used to store propellant-containing wastes since approximately 1967 when the plant was constructed. At that time, and until 1988, this unit was an unpaved and unfenced storage area. The structure, as it exists today, was constructed in 1988.

**Comment:** None.

**B-72. Location:** Page B-2, Photo No. 14

**Text:** SWMU No. 8 - Plant 2 Building 20 - Additional evidence of oil staining on the soil adjacent to the leaking product drums on the north side of the shed.

**Technical Correction:** None.

**Comment:** There were no drums of material leaking during the VSI.

**B-73. Location:** Page B-3, Photo No. 20

**Text:** SWMU No. 10 - Plant 2 New Water Boreout Unit - One of the two steel water collection tanks used to collect propellant-contaminated water from the boreout system. The plastic "feed" tank in the background receives "regenerated" water from the horizontal collection tanks prior to pumping back into the boreout system for use in the boreout operations.

**Technical Correction:** SWMU No. 10 - Plant 2 New Water Boreout Unit - One of the two ~~plastic~~ water collection tanks used to collect ~~polymer~~-contaminated water from the boreout system. The plastic "feed" tank in the background receives "filtered" water from the horizontal collection tanks prior to pumping back into the boreout system for ~~reuse~~ in the boreout operations.

**Comment:** None.

**B-74. Location:** Page B-3, Photo No. 23

**Text:** SWMU No. 20 - Plant 3 Line 1 ERM Liquid Waste Satellite Accumulation Area - This fenced concrete paved accumulation area is currently designated for the storage of M17M (solvent) and ~~solvent contaminated trash~~. In the past, this area was used for the storage of 1,1,1-TCA and other liquid wastes. This area, though presently a "satellite" accumulation area, has in the past been used as a "less-than-90-day" accumulation area.

**Technical Correction:** SWMU No. 20 - Plant 3 Line 1 ERM Liquid Waste Satellite Accumulation Area - This fenced concrete paved accumulation area is currently designated for the storage of M17M (solvent). In the past, this area was used for the storage of 1,1,1-TCA and other liquid wastes. This area, though presently a "satellite" accumulation area, has in the past been used as a "less-than-90-day" accumulation area.

**Comment:** Solvent contaminated trash is not accumulated at this unit.

**B-75. Location:** Page B-3, Photo No. 24

**Text:** SWMU No. 31 - Plant 3 Line 2 Test Area Less than 90-Day Accumulation Area - Solid phase propellant-containing waste is accumulated for less than 90 days within the fenced on this concrete pad. Note that the berm is primarily to control run on of water or soil.

**Technical Correction:** SWMU No. 31 - Plant 3 Line 2 ~~Propellant Hold~~ Area Less than 90-Day Accumulation Area - Solid phase propellant-containing waste is accumulated for less than 90 days within the fence on this concrete pad. Note that the berm is primarily to control run on of water or soil.

**Comment:** None.

**B-76. Location:** Page B-3, Photo No. 26:

**Text:** SWMU No. 34 - Plant 3 Roland Area Less than 90-Day Storage - A 12 foot by 12 foot concrete pad located near Building 10 was for the storage of nonliquid wastes including TALI-12 (magnesium teflon) and AP propellant-containing wastes. Prior to the placement of the concrete pad (approximately two years ago), the unit was an asphalt pad.

**Technical Correction:** SWMU No. 34 - Plant 3 Roland Area Less than 90-Day Storage - A 12 foot by 12 foot concrete pad located near Building 10 was for the storage of ~~propellant~~ wastes including TALI-12 (magnesium teflon) and AP ~~and sodium azide~~ propellant-containing wastes. Prior to the placement of the concrete pad (approximately two years ago), the unit was an asphalt pad.

**Comment:** None.

**B-77. Location:** Page B-4, Photo No. 30:

**Text:** SWMU No. 42 - Plant 3 Storage Pad at the Old Water Boreout Unit - 38 55-gallon poly drums containing AP ~~propellant-containing~~ waste water were in storage at a concrete pad/shed north of the boreout unit (within the boreout compound). Note the evidence of leaks from at least one of the drums. The shed is open-sided, approximately 5 feet by 6 feet and is covered by a roof.

**Technical Correction:** SWMU No. 42 - Plant 3 Storage Pad at the Old Water Boreout Unit - 38 55-gallon poly drums containing ~~polymer solids and~~ AP waste water were in storage at a concrete pad/shed north of the boreout unit (within the boreout compound). Note the evidence of leaks from at least one of the drums. The shed is open-sided, approximately 5 feet by 6 feet and is covered by a roof.

**Comment:** The leaking drum was replaced the day of the VSI.

**B-78. Location:** Page B-4, Photo No. 34:

**Text:** SWMU No. 43 - Plant 4 Main Pad (less than 90-day storage) - Fenced 20-foot by 40-foot concrete pad used to store Black AP propellant in cargotainers and/or 55-gallon poly drums.

**Technical Correction:** SWMU No. 43 - Plant 4 Main Pad (less than 90-day storage) - Fenced 20-foot by 40-foot concrete pad used to store AP propellant in ~~black conductive bags in~~ cargotainers and 55-gallon poly drums ~~used to store wastewater~~

**Comment:** None.

**B-79. Location:** Page B-5, Photo No. 43

**Text:** SWMU No. 47 - Plant 4 Building 20 Weighout Area - Drum containing rinsolve product is positioned where liquid 1,1,1-TCA waste and 1,1,1-TCA-contaminated trash have historically been collected. This area is no longer used to collect waste; instead satellite accumulation drums are placed within each bay (room) of the building. The concrete pad is the location of a former below grade sump that was designed to collect wash water from the weighing rooms (see Photo No. 44).

**Technical Correction:** SWMU No. 47 - Plant 4 Building 20 Weighout Area - Drum containing rinsolve product is positioned where liquid 1,1,1-TCA waste and 1,1,1-TCA-contaminated trash have historically been collected. This area is no longer used to collect ~~hazardous~~ waste; instead satellite accumulation drums are placed within each bay (room) of the building. The concrete pad is the location of a former below grade sump that was designed to collect wash water from the weighing rooms (see Photo No. 44).

**Comment:** The wash down system was never used and filled in March 1991.

**B-80. Location:** Page B-5, Photo No. 46

**Text:** SWMU No. 51 - Plant 6 Former Surface Impoundments - Two semi above-grade surface impoundments that received liquid waste from a computer hard disk manufacturer were located in this approximate area directly west of Plant 6. The polyethylene liners were removed in 1987 and the asphalt bases were left in place and buried. There was no sign of remnant debris above the surface. However, the soil in the forefront of the photo appears to be lacking vegetation.

**Technical Correction:** SWMU No. 51 - Plant 6 Former Surface Impoundments - Two semi above-grade surface impoundments that received liquid waste from a computer hard disk manufacturer were located in this approximate area directly west of Plant 6. The polyethylene liners were removed in 1995 and the asphalt bases were left in place, broken up and buried in 1987. There was no sign of remnant debris above the surface. However, the soil in the forefront of the photo appears to be lacking vegetation.

**Comment:** The soil in the forefront is approximately 50 foot by 50 foot in area and typical of many such areas in the Sonoran Desert.

**B-81. Location:** Page B-5, Photo No. 47

**Text:** SWMU No. 52 - Burn Ground - View from the center of the burn ground toward Pit No. 1 (east of the center). Pit No. 1 is used to burn (when necessary and not recently) sodium azide-containing wastes. The waste would be burned on the elevated concrete structure and not directly on soil. A metal pan was historically in place to collect wash down water after a burn.

**Technical Correction:** SWMU No. 52 - Burn Ground - View from the center of the burn ground toward Pit No. 1 (east of the center). Pit No. 1 is used to burn (when necessary and not recently) sodium azide-propellant wastes. The waste would be burned in a drum on the elevated steel structure and not directly on soil. A stainless steel pan was historically in place to collect wash down water after a burn.

**Comment:** None.

**B-82. Location:** Page B-6, Photo No. 49

**Text:** SWMU No. 52 - Burn Ground - View from the center of the burn ground looking southwest showing the edge of Pit No. 5 and Pit No. 6. Pit No. 6 has historically been used to burn sodium azide containing wastes on the concrete pad. Pit No. 6 is no longer used; sodium azide-containing wastes are now burned (when necessary and not recently) in Pit No. 1.

**Technical Correction:** SWMU No. 52 - Burn Ground - View from the center of the burn ground looking southwest showing the edge of Pit No. 5 and Pit No. 6. Pit No. 6 has historically been used to burn sodium azide propellants on a steel pad. Pit No. 6 is no longer used; sodium azide propellants are now burned (when necessary and not recently) in Pit No. 1.

**Comment:** None.

**B-83. Location:** Page B-6, Photo No. 52

**Text:** SWMU No. 52 - Burn Ground - View looking north from the center of the burn ground toward the former waste accumulation area. This area is now used to store equipment that is used in burns. Note the possible staining to the east of the equipment.

**Technical Correction:** SWMU No. 52 - Burn Ground - View looking northeast from the center of the burn ground toward the former waste accumulation area. This area is now used to store equipment that is used at the BG. Note the possible staining to the east of the equipment.

**Comment:** This area is not a former waste accumulation area. It is also not used to store equipment used in the burns.



**B-84. Location: Page B-6, Photo No. 55**

**Text:** AOC No. 4 - Plant 2 - A 10,000-gallon tank and overflow collection pond, north of the plant, are used to collect cooling tower ~~condensation~~ water from the Plant 2 compound. The white piping in the pond is the pipe through which overflow water travels from the tank.

**Technical Correction:** AOC No. 4 - Plant 2 - A 10,000-gallon tank and overflow collection pond, north of the plant, are used to collect cooling tower water from the Plant 2 compound. The white piping in the pond is the pipe through which overflow water travels from the tank.

**Comment:** None.

**B-85. Location: Page B-6, Photo No. 56**

**Text:** AOC No. 6 - Plant 3 Line 1 - X-ray rinse water filtering system. The waste water passes through the cylinder in the center of the photo which is in turn returned to the distributor for silver recovery. The unit is inside a building and is positioned on a concrete floor. The two plastic containers in front of the cylinder contain filtered x-ray water. The filtered rinse water is sampled (for silver) and collected in an on site 900-gallon tank that will ultimately be batch discharged to the sewer.

**Technical Correction:** AOC No. 6 - Plant 3 Line 1 - X-ray rinse water ~~silver recovery~~ system. The waste water passes through the cylinder ~~(resin column)~~ in the center of the photo which is in turn returned to the ~~vendor~~ for silver recovery. The unit is inside a building and is positioned on a concrete floor. The two plastic containers in front of the cylinder contain ~~non~~-filtered x-ray water. The filtered rinse water is sampled (for silver) and collected in an on site 900-gallon tank that will ultimately be batch discharged to the sewer.

**Comment:** None.

**B-86. Location: Page B-7, Photo No. 58**

**Text:** AOC No. 7 - Plant 3 - Former metal "sump" container that was used at the burn ground in Pit No. 1 to collect residual wash water after sodium azide-containing wastes were burned. This sump is now stored in the yard between Building Nos. 29 and 38 on bare ground.

**Technical Correction:** AOC No. 7 - Plant 3 - Former metal "sump" container that was used at the burn ground in Pit No. 1 to collect residual wash water after sodium azide ~~propellants~~ were burned. This sump is now stored in the yard between Building Nos. 29 and 38 on bare ground.

**Comment:** None.

Thank you in advance for your consideration of these technical corrections and/or comments. TDS looks forward to working with you throughout the RCRA corrective action process.

N. Moutoux/U.S. EPA  
SMW-40  
11 JULY 94

Page 34

I certify, under penalty of law, that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

Sincerely,

TALLEY DEFENSE SYSTEMS, INC.



Steven M. Wegener  
Senior Vice President  
Marketing and Programs

SMW/pnk

cc: S. Harczynski  
D. Jones  
File #95.1

# **APPENDIX 1**

**CHRONOLOGICAL SUMMARY**  
**ADEQ OAQ OPEN BURNING PERMITS**

- **OAQ:PU:JTH:8407**  
Valid October 12, 1988 thru December 31, 1988
- **OAQ:PU:ACL:8940**  
Valid April 28, 1989 thru December 31, 1989  
  
NOTE: Request for a 1989 permit was submitted December 5, 1988 which continues the previous permit until Agency action.
- **OAQ:PU:ACL:9086**  
Valid July 25, 1989 thru July 31, 1989  
  
NOTE: Issued to allow disposal of large quantities of AN propellant during agency negotiations.
- **OAQ:PU:JD:9295**  
Valid November 9, 1989 thru November 30, 1989  
  
NOTE: Issued to allow disposal of large quantities of AN propellant during agency negotiations.
- **OAQ:PU:MG:9707**  
Valid March 9, 1990 thru April 16, 1991
- **OAQ:PU:MG:9765**  
Valid March 30, 1990 thru April 16, 1991  
  
NOTE: Supersedes #9707 following additional negotiations.
- **OAQ:PU:MG:10103**  
Valid July 12, 1990 thru April 16, 1991  
  
NOTE: Additional permit which runs with #9765.
- **OAQ:PU:SA:10489**  
Valid October 30, 1990 thru April 16, 1991  
  
NOTE: Additional permit which runs with #9765 and #10103.
- **OAQ:PU:JKB:10889**  
Valid February 20, 1991 thru April 16, 1991  
  
NOTE: Additional permit which runs with #9765, #10103 and #10489.
- **OAQ:PU:JKB:12114**  
Valid January 23, 1992 thru December 31, 1992  
  
NOTE: Timely permit application provides continuance of an existing permit until agency action.
- **OAQ:PU:9211464:MARICOPA:JKB**  
Valid November 5, 1992 thru December 31, 1993
- **OAQ:PU:9311451:MARICOPA:JKB**  
Valid November 3, 1993 thru December 31, 1994

# **APPENDIX 2**

December 14, 1993

Ms Kathleen Carson, P.E.  
Hazardous Waste Permits  
Office of Waste Programs  
ARIZONA DEPARTMENT OF ENVIRONMENTAL QUALITY  
3033 North Central Avenue  
Phoenix, AZ 85021

Dear Ms. Carson:

Just a note to inform you that Talley Defense Systems, Inc. has purchased, installed, tested and is now fully\* operating the 1,000 lb. Burn Box approved in your letter of July 30, 1993 (ref: HWP-EX269). Operation of the burn box eliminates burning on the ground and minimizes the explosive effects on the surrounding area, including potential brush fire incidents.

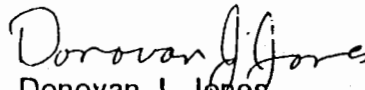
Use of the burn box has changed the operating procedures at the Burn Ground. These procedures are being revised in the RCRA Part B Permit Application submittal due to the Arizona Department of Environmental Quality on January 18, 1994.

Thank you again for your timely review and approval of the burn box.

- \* Except for Sodium Azide formulations, which are not suitable for disposal in the burn box, these formulations are burned in 50 lb. quantities inside 35-gallon metal drums on top of a steel burn pad.

Sincerely,

TALLEY DEFENSE SYSTEMS, INC.



Donovan J. Jones  
Director of Safety and  
Environmental Quality

DJJ/pnk

cc: S. Harczynski  
S. Kerr  
T. Ryan  
S. Wegener  
File #159.1.1

## **APPENDIX 3**

RECEIVED APR 29 1994

3725 E. Atlanta Ave.  
Suite One  
Phoenix, AZ 85040  
Voice: (602) 470-028  
FAX: (602) 470-075  
ADHS License AZ 00

## REPORT OF ANALYSIS

Talley Defense Systems  
Attn: Scott Harczyński  
P.O. Box 849  
Mesa AZ 85211

Date Sampled: 07 Apr 94  
Date Received: 07 Apr 94  
Date Analyzed: 13 Apr 94  
Date Reported: 25 Apr 94  
McKenzie I.D.: E94-2394  
Units Reported: µg/L (ppb)  
Page 1 of 2

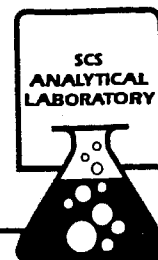
### VOLATILE ORGANIC COMPOUNDS (EPA 624) (Performed by Turner/CAS Laboratories, Inc., Tucson, Arizona)

| <u>Compound</u>                   | <u>TDS-040794-624</u> | <u>MRL</u> |
|-----------------------------------|-----------------------|------------|
| Chloromethane                     | ND                    | 5          |
| Vinyl Chloride                    | ND                    | 2          |
| Bromomethane                      | ND                    | 2          |
| Chloroethane                      | ND                    | 5          |
| Trichlorofluoromethane (Freon 11) | ND                    | 5          |
| 1,1-Dichloroethene                | ND                    | 5          |
| Methylene Chloride                | ND                    | 10         |
| trans-1,2-Dichloroethene          | ND                    | 2          |
| 1,1-Dichloroethane                | ND                    | 2          |
| Chloroform                        | 9                     | 2          |
| 1,1,1-Trichloroethane (TCA)       | 5                     | 2          |
| Carbon Tetrachloride              | ND                    | 2          |
| Benzene                           | ND                    | 2          |
| 1,2-Dichloroethane                | ND                    | 2          |
| Trichloroethene (TCE)             | ND                    | 2          |
| 1,2-Dichloropropane               | ND                    | 2          |
| Bromodichloromethane              | 3                     | 2          |
| 2-Chloroethyl Vinyl Ether         | ND                    | 10         |
| trans-1,3-Dichloropropene         | ND                    | 2          |
| Toluene                           | 4                     | 2          |
| cis-1,3-Dichloropropene           | ND                    | 2          |
| 1,1,2-Trichloroethane             | ND                    | 2          |
| Tetrachloroethene (PCE)           | ND                    | 2          |
| Dibromochloromethane              | ND                    | 2          |
| Chlorobenzene                     | ND                    | 2          |
| Ethylbenzene                      | ND                    | 2          |
| Bromoform                         | ND                    | 2          |



# **APPENDIX 4**

RECEIVED JUL 19 1993



2860 WALNUT AVENUE  
LONG BEACH, CALIFORNIA 90806  
(310) 595-9324  
FAX (310) 595-6709

Talley Defense Systems, Inc.  
P.O. Box 849  
Mesa, Arizona 85211

ATTN: Scott Harczynski

July 15, 1993

JOB OO.: 0689044  
P.O.NO.: 30068  
WORKSHEET NO.: 0440

Page 1 of 1



LABORATORY REPORT

**Sample:** Four (4) waste water samples collected 6/24/93, 6/25/93, 6/28/93 and 6/29/93 and received on 7/02/93.

| Sample ID                  | B<br>(200.7) | Pb<br>(200.7) | Ag<br>(200.7) | O&G<br>(413.2) |
|----------------------------|--------------|---------------|---------------|----------------|
|                            | mg/L         |               |               |                |
| TDS-6/24/93-LG June Sample | ND           | ND            | 0.10          | ND             |
| Detection Limit            | 0.4          | 0.25          | 0.05          | 0.5            |
| Date Analyzed              | 7/14/93      | 7/14/93       | 7/14/93       | 7/14/93        |

| Sample ID                      | Ag<br>(200.7)<br>mg/L |
|--------------------------------|-----------------------|
| TDS-6/25/93-LG June Resample 1 | ND                    |
| TDS-6/28/93-LG June Resample 2 | ND                    |
| TDS-6/29/93-LG June Resample 3 | ND                    |
| Detection Limit                | 0.05                  |
| Date Analyzed                  | 7/14/93               |

ND - Not Detected

|  |   |
|--|---|
| <br>Reviewed by | <br>Approved by |
|--|---|

tally90.rep



CITY OF  
MESA

INDUSTRIAL USER  
SELF-MONITORING FORM

Facility Identification

Name: Talley Defense Systems

Permit # 188

Address: PO Box 849  
Mesa, AZ 85211

Sample Collection Information

Collected By: LGsy Sample Date: 6/24/93

Point of Collection: Tank Room to Discharge

Sampling Method: 4 samples composited into one

Discharge on the day of sampling: Cooling tower water

SAMPLE RESULTS

| PARAMETER<br>NAME | ANALYSIS<br>RESULTS | METHOD | PARAMETER<br>NAME | ANALYSIS<br>RESULTS | METHOD |
|-------------------|---------------------|--------|-------------------|---------------------|--------|
| Arsenic           |                     |        | COD               |                     |        |
| Barium            |                     |        | BOD               |                     |        |
| Boron             |                     |        | SS                |                     |        |
| Cadmium           |                     |        | pH                |                     |        |
| Chromium          |                     |        | Temperature       |                     |        |
| Chromium VI       |                     |        | Oil & Grease      |                     |        |
| Copper            |                     |        | Cyanide           |                     |        |
| Lead              |                     |        | Sulfide           |                     |        |
| Manganese         |                     |        | Phenolics         |                     |        |
| Mercury           |                     |        | Fluoride          |                     |        |
| Nickel            |                     |        | Toxic Organics    |                     |        |
| Selenium          |                     |        | Other             |                     |        |
| Silver            |                     |        | Other             |                     |        |
| Zinc              |                     |        |                   |                     |        |

Analysis performed by \_\_\_\_\_ On \_\_\_\_\_

Chain of Custody

|                        |       |           |       |
|------------------------|-------|-----------|-------|
| Sample Relinquished by | _____ | Time/Date | ____  |
| Sample Received by     | _____ | Time/Date | _____ |
| Sample Relinquished by | _____ | Time/Date | _____ |
| Sample Received by     | _____ | Time/Date | _____ |

